State Heart Disease and Stroke Prevention Programs Address High Blood Cholesterol

High blood cholesterol is a major modifiable risk factor for heart disease and stroke, the first and third leading causes of death in the United States.[1] Yet, a 10% decrease in total blood cholesterol levels can reduce the incidence of heart disease by as much as 30%.[2]

Two of the national health objectives for the year 2010 are to reduce to 17% the percentage of adults aged 20 years or more with total blood cholesterol levels of greater than or equal to 240 mg/dL, which is considered high risk; and to increase to 80% the percentage of adults who had their blood cholesterol checked during the preceding 5 years.[3] An overall national health goal is to eliminate racial/ethnic and other disparities in all health outcomes, including high blood cholesterol.[3]

The proportion of American adults ages 20 years and older having high blood cholesterol levels of 240 mg/dL or higher decreased from 20.8% during 1988-94 to 17.3% during 1999-2002.[4] Despite this improvement, from 1991-2001, there was an increase in the proportion of United States participants aged 18 years and older who reported having been told that their blood cholesterol was high.[5] Furthermore, from 1999-2000, over 50% (107 million) of adult Americans, particularly women, had cholesterol levels of 200 mg/dL or higher, which is above desirable levels.[6]

During 1999-2002, only 63% of adults in the U.S. had their cholesterol checked or screened during the preceding 5 years, which is below the national 2010 health objective.[7] Most important, there are racial and ethnic differences in cholesterol screening and awareness. According to a recent CDC report, Mexican Americans, African Americans, and younger adults were less likely than others to be screened for high blood cholesterol, and persons in those populations who have high cholesterol are less likely to be aware of it.[7] This report also showed that women with high blood cholesterol were less likely than men to be aware of their high cholesterol condition.[7]

Efforts, such as public health campaigns and access to affordable treatment, are needed to raise awareness and increase screening and control of high blood cholesterol, especially among women, African Americans, Mexican Americans, and younger adults. Lowering high blood cholesterol can reduce the risk for developing or dying from heart disease, including heart attacks; however, less than half of persons who qualify for any kind of lipid treatment for risk reduction are receiving it.[8]

Cholesterol levels can be lowered through dietary changes, increased physical activity, weight control, drug therapy, or a combination of these.[8] The National Cholesterol Education Program (NCEP) recommends that adults 20 years and older have their blood cholesterol levels measured once every 5 years.[8]

Examples of High Blood Cholesterol Activities in CDC–Funded State Heart Disease and Stroke Prevention Programs

Maine has a grant initiative entitled "Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting." This initiative provides funding to primary care sites to help patients control their high blood pressure and high blood cholesterol through patient and provider adherence to nationally recognized guidelines.

North Carolina works with the North Carolina Prevention Partners (NCPP) to increase preventive health benefits coverage in the state that includes addressing high blood pressure and cholesterol. The NCPP also trained employers and health plan managers to provide and improve disease management programs for treating high blood pressure, high cholesterol, and diabetes.

Mississippi and Ohio have participated in the "Know Your Numbers" initiative, a public awareness campaign designed to increase people's knowledge of their blood cholesterol, glucose, blood pressure numbers, and body mass index (BMI). They have made the campaign culturally relevant for such priority populations as African Americans and Latinos.

Missouri collaborates with the St. Louis Fire Department which provides blood pressure and cholesterol screenings, referral, and follow up for inner-city residents.

Georgia provides education and assistance to the state's Chamber of Commerce. This effort resulted in one company initiating a strategic business and health plan entitled Seven Essential Elements in Risk Reduction. This company partnered with a hospital to conduct employee health screenings. Another company offered screening and risk reduction to over 4,000 employees. As a result, a significant number of these employees normalized their blood cholesterol levels.

A lipoprotein profile is performed to measure different components of total cholesterol as well as triglycerides (another type of fatty substance that increases risk for heart disease). See NCEP guidelines for treatment recommendations.

State Heart Disease and Stroke Prevention Programs Take Action

State Health Departments work to prevent and control high blood cholesterol and reduce the burden of heart disease and stroke by promoting activities that can be implemented in health care, work sites, communities, and schools. For example, a state program might—

- **Promote policy development, training, and system changes** (e.g., electronic medical records, automated prescription systems, and paper or electronic reminders) to assist health care practitioners in adhering to treatment protocols consistent with national guidelines for preventing and controlling high blood cholesterol.

- **Partner with organizations to assure that detection and follow-up services are available** for controlling high cholesterol in various settings, including health care, work site, and community.

- **Promote the use of clinical care teams** that include health educators to assure consistent screening, detection, risk-factor education, medication monitoring, and follow-up to prevent and control high cholesterol.

- **Educate the public** using simple and frequent messages that high blood cholesterol is a major modifiable risk factor for heart disease and stroke, and that having one's blood cholesterol checked is an important first step in identifying and controlling high blood cholesterol and reducing the risk of heart disease and stroke.

- **Collaborate on professional medical education, self-care workshops, policy interventions, and incentives** to improve detection and control of high blood cholesterol.

- **Encourage health care insurance coverage** for blood cholesterol screening, treatment, and control, as well as rehabilitation services for heart attack and stroke survivors.

- **Partner with other agencies to establish organizational policies and environmental interventions that support healthy lifestyles** including access to screening, low-cost healthy food choices, smoke-free facilities, stress management options, and places for physical activity.

Table 1. ATP^ III Classification of LDL, HDL, Total Cholesterol and Triglycerides (milligrams/deciliter [mg/dL])*

LDL (Bad) Cholesterol	
Less than 100	Optimal
100 – 129	Near optimal/above optimal
130 – 159	Borderline high
160 – 189	High
190 and above	Very high
HDL (Good) Cholesterol	
Less than 40	Low
60 and above	High (Protective against heart disease)
Total Cholesterol	
Less than 200	Desirable
200 – 239	Borderline high
240 and above	High
Triglycerides	
Less than 150	Desirable
150 – 199	Borderline high
200 – 499	High
500 and above	Very high

^ ATP=Adult Treatment Panel

*Note: From the "Third Report of the National Cholesterol Education Program (NCEP) on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III)," by the National Heart, Lung, and Blood Institute of the National Institutes of Health, May 2001, pg. 3.

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